

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1-14(canceled)

15.(previously presented) An ultrasonic surgical blade comprising:

an ultrasonic blade having more than one half-wave segments, whereby a one-half wave segment comprises a first portion, a second portion and a third portion, and the first portion comprising a first cross-sectional area and the second and third portions comprising a second cross-sectional area less than the first cross-sectional area and wherein the first portion comprises a distal end and a proximal end, the distal end is connected to the second portion and the proximal end is connected to the third portion and wherein the third portion defines a first anti-node and the second portion defines a second anti-node and the first and second anti-nodes define the one-half wave segment.

16.(previously presented) An ultrasonic surgical instrument comprising:

- a) a housing;
- b) a tubular sheath having a proximal end joined to the housing, and a distal end;
- c) an ultrasonic waveguide having more than one half-wave segments positioned within the tubular sheath and having an end effector extending distally of the distal end of the tubular sheath; the waveguide having a one-half wave segment comprising a first portion, a second portion and a third portion, and the first portion comprising a first cross-sectional area and the second and third portions comprising a second cross-sectional area less than the first cross-sectional area and wherein the first portion comprises a distal end and a proximal end, the distal end is connected to the second portion and the proximal end is connected to the third portion and wherein the third portion defines a first anti-

node and the second portion defines a second anti-node and the first and second anti-nodes define the one-half wave segment.

17.(previously presented) The ultrasonic surgical instrument of claim 16 further comprising a clamp arm pivotally mounted on the distal end of the tubular sheath for pivotal movement with respect to the end effector for clamping tissue between the clamp arm and end effector.

18-19.(canceled)

20.( previously presented) The ultrasonic surgical instrument of claim 15, wherein the first cross-sectional area is constant.

21.(previously presented) The ultrasonic surgical instrument of claim 15, wherein the second cross-sectional area is constant.

22-27.(canceled)

28. (withdrawn) An ultrasonic surgical blade comprising:  
an ultrasonic blade having more than one half-wave segments, whereby a one-half wave segment comprises a first portion, a second portion and a third portion, and the first portion comprising a first density and the second and third portions comprising a second density less than the first density and wherein the first portion comprises a distal end and a proximal end, the distal end is connected to the second portion and the proximal end is connected to the third portion and wherein the third portion defines a first anti-node and the second portion defines a second anti-node and the first and second anti-nodes define the one-half wave segment.

29.(withdrawn) An ultrasonic surgical blade comprising:

an ultrasonic blade having more than one half-wave segments, whereby a one-half wave segment comprises a first portion, a second portion and a third portion, and the first portion comprising a first stiffness and the second and third portions comprising a second stiffness less than the first stiffness and wherein the first portion comprises a distal end and a proximal end, the distal end is connected to the second portion and the proximal end is connected to the third portion and wherein the third portion defines a first anti-node and the second portion defines a second anti-node and the first and second anti-nodes define the one-half wave segment.

30.(previously presented) An ultrasonic surgical blade comprising:

an ultrasonic blade having more than one half-wave segments, whereby a one-half wave segment comprises a first portion, a second portion and a third portion, and the first portion comprising a first cross-sectional area and the second and third portions each defining a length and comprising a variable cross-sectional area along each length and wherein the first portion comprises a distal end and a proximal end, the distal end is connected to the second portion and the proximal end is connected to the third portion and wherein the third portion defines a first anti-node and the second portion defines a second anti-node and the first and second anti-nodes define the one-half wave segment.